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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,448	03/22/1999	SHINGO OHKAWA	1185.1044/JD	7146

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EXAMINER

NGO, HUYEN LE

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/273,448

Applicant(s)

OHKAWA, SHINGO

Examiner

Julie-Huyen L. Ngo

Art Unit

2871

MC

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-22 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al. (US5963280A) in view of Oyama et al. (US5808708A).

With respect to claim 13 and 25, Okuda et al. disclose (Fig. 4, col. 16 line 62 to col. 17 line 17) a liquid crystal display including a liquid crystal display panel and a surface light source device of side light type for backlighting of the liquid crystal display panel, said surface light source device comprising:

- a first guide plate;
- a first primary light source 17 with red color disposed beside the first guide plate;
- a second guide plate;
- a second primary light source 8 with blue color disposed beside the second guide plate;

- said first guide plate having two major faces to provide a first emission face and a first back face and having a minor face to provide a first incidence end face;
- said second guide plate having two major faces to provide a second emission face and a second back face and having a minor face to provide a second incidence end face;
- said first guide plate and said second guide plate being laminatedly arranged so that said second back face extends along said first emission face;
- said first incidence end face and said second incidence end face being located oppositely to each other across said laminatedly arranged guide plates, wherein
- a light control member (the scattering layer 14) to control directivity of output illumination light is disposed along said second emission face.

Although Okuda et al. do not clearly disclose a driving circuit to drive the first primary light source and the second primary light source. One of ordinary skill in the art would have known that there must be a driver circuit to drive/control the light sources for adjusting the intensity of output light from the light source(s) or for selectively outputting a specific color display.

However, it is well known in the art for such a device like that of Okuda to include a driver circuit to drive or control the light sources such as the control circuit 16 for controlling the light sources 3 on the back surface of the light guiding plate 4a/14, as evidenced by Oyama (Figs. 2, 3 and 8, col. 1, lines 26-33, col. 7, lines 24-27 and col. 11, lines 26-28)

Therefore, it would have been obvious for Okuda device to include a driver circuit to control the output light from the first primary light source and the second primary light source.

With respect to claim 14, it would have been obvious for one of ordinary skill in the art to selectively turning off one of the first and second primary light sources to adjust the intensity of light output or for selecting a specific color display. The driver circuit in Okuda device would obviously capable of turning off only one of the first and second primary light sources.

With respect to claims 15 and 16, Okuda et al. teach (Fig. 4) that said first and second guide plates have wedge-shaped cross sections so that said first and second incidence end faces are located at thicker ends of the cross sections, respectively.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al. in view of Oyama et al. as applied to claims 13-16, and further in view of Ohkawa (US 5997148).

Ohkawa teaches (figs. 1 and 2 and col. 5, line 32-col. 6 line 14) forming a great number of projection rows 102 running approximately at right angles with respect to the incidence end face 12A on the lower edge/back face 12B of a guide plate 12 for preventing the reflective appearance have a possibility to influence the directivity of characteristic of emission light from the emission surface 12C of light guide 12. Doing so would suppress the appearance of bright light entering the vicinity of the lower edge E1 and provides output light having high uniformity.

Therefore, it would have been obvious for one of ordinary skill in the art to form a great number of projection rows running approximately at right angles with

respect to the first incidence end face on the first back face of the first light guide of Okuda and Oyama device for the reasons as set forth above, as taught by Ohkawa.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda in view of Oyama as applied to claims 13, and in further view of Arai (US6049649).

A prism sheet (light control member) is conventionally used to modify the preferential propagation direction such as frontal direction of output light in a surface light source device such as the light control members 4/14 in Arai device (figures 3,4 and 11-18). The light control member is provided with a great number of slopes on the inner surface facing the emission surface of the guide light to modify the directivity of illumination output light from the light guide and for uniform illuminating of the output light.

Therefore, it would have been obvious for one of ordinary skill in the art to employ a light control member in Okuda in view of Oyama device to modify the directivity of illumination output light so that illumination output light originated from any one of the first and second primary light source is directed to a frontal direction with respect to the second emission face.

With respect to claim 22, the light control member employed in Okuda in view of Oyama surface light source device as applied to claim 21 above would obviously has an inner face provided with a great number of projection rows running approximately parallel with respect to the second incidence end face, wherein each of said projection rows including a pair of slopes for modifying the

directivity of illumination output light from the second emission surface of the second guide plate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Limura et al. (US6036329A) disclose a flat light source comprising two light transmission panels 10 and 30 (light guides) with a light coupling means 20.

Goto et al. (US5999685A) disclose a light guide plate with the projections in back and front surfaces of light guide.

Koike et al. (US5659410) disclose a surface light source device comprises a wedge-type light guide of an emitting directionality having specified ranged effective scattering irradiation parameter and correction distance "a".

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie Ngo, whose telephone number is (703) 305-3508.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



Julie Huyen L. Ngo

Patent Examiner
Art Unit 2871